

Reflections on the action of the New model Wave equation in Physical Systems.

We begin with the familiar & Classically used E – M wave equation,

i.e. derived through Maxwells Laws.

$$\nabla^2 \psi = \frac{1}{c^2} \frac{d^2 \psi}{dt^2}$$

The Physical model variant is equivalent $\psi - \text{dot} = \gamma \cdot \psi - dd$

as $[\nabla \sim c \approx k \& k^2 = \frac{1}{\gamma} = f \approx \frac{d}{dt} \sim -\text{dot 'Operator'}]$

Dot notation is used where – dot signifies a 1st order time differential $[\frac{d}{dt}]$

& thus – dd = a 2nd order, $[\frac{d^2}{dt^2}]$ etc

Plus we take a step further to include *System Omega*, nominally $[\omega] = [\frac{k}{m}]$, i.e.

$$\left\{ \begin{matrix} + \\ - \end{matrix} \right\} \psi - \text{dot} \leftrightarrow \left\{ \frac{\gamma}{\omega} \right\} \cdot \psi - dd$$

we read this dual identity such that,

$\{+\}$ 'maps to' *gamma*, & $\{-ve\}$ 'maps to' *omega*.

i.e. incorporating model view that

$$\omega \equiv -ve [\gamma]$$

and we infer that for physical systems the system omega operates,

to offset, compensate &/or equilibriate, the action of system gamma & visa versa.

Further we imply that Psi can be any sensible or classical parameter such as mass, length, time, etc.

Example $[\psi] = \{m\}$ We derive

$$\left\{ \begin{matrix} + \\ - \end{matrix} \right\} m - \text{dot} = \left\{ \frac{\gamma}{\omega} \right\} \cdot m - dd$$

The +ve output gives 'energy' = $[\text{gamma} \times \text{lambda}]$

$$\text{Classically} \quad \frac{dm}{dt} \equiv E = F \cdot d \equiv \gamma \cdot \lambda$$

$$\& \quad m - dd = \frac{d^2[m]}{dt^2} \equiv \lambda = \frac{m}{p} \quad \text{model De Broglie \& Heisenberg.}$$

Note also in this model gamma has a dual identity such that 'time is seen as a force' $\{t\} = [\gamma] = \{F\}$

& $\{-ve\}$ is seen as a phase Operator incurring a clockwise rotation by $\frac{1}{2}$ cycle, thus $-ve \text{ gamma} = [\gamma - 180] \text{ deg} = \omega$

The $-ve$ output yields the 'restorative' $-ve$ gamma, or System Omega.

$$-ve\ m - dot = \omega . m - dd$$

$$\text{Thus } -ve\ m - dot = \frac{k}{m} . \text{lambda}$$

where we introduce one variant on omega, $\omega m \lambda = 1$ or $\omega = k/m$

as system wave number $[k] = \text{reciprocal lambda } \frac{1}{\lambda}$, $[k.\lambda] = 1 \sim [2\pi]^*$

often seen as $k = \frac{2\pi}{\lambda}$, & $[2\pi]^* = 1$ full rotation, in general can be either $\frac{+}{-}$ sense

Thus we get a model standard $-ve[m.m - dot] = \text{Unity}$

this also a gamma variant such that system $[F] \frac{\&}{or} \{t\}$ gives identically $[\gamma] = -ve[m.m]$

Then as omega = $-ve$ gamma we get $\omega = -ve . -ve[m.m]$

These are not conventional $-ve$ signs, 'they do not cancel'

but would indicate $2 \times \frac{1}{2}$ cycle [c.w.] rotations, in tandem, or phase summation

reference any of both masses $[m.m]$ here.

N.2.L & specifically the U.L.G. can be seen in new light reference the wave equation principally,
& secondly the opposing gamma omega relationship, which has resonance with N.3.l

$$\text{We say, } F = \frac{GMm}{r^2} \text{ is a wave equation!}$$

featuring mass as Psi, as outlined previously.

This can be derived easily from any of the introductory w.eqn's,

with $[G] = \text{the k-number}$, $[r] = \text{lambda}$.

& note $[\gamma] = [\lambda^2] \sim r^2 \sim [F] \& \{t\}$ from previous,

& frequency $[f] = \frac{1}{t} = \frac{1}{\gamma} \sim \frac{d}{dt} \approx -dot\ operator$

also we use mass in the binary sense, mass $[m] \equiv [Mm]$.

This same approach will also yield the famous $E = mc^2$

for $[\psi = m]$, $[c = k]$, which will prove 'Action as mass' i.e. $E.t = m$ & model Einstein $m = \gamma . m - dot$.

Then $-ve$ mass = Reaction, we call that model gravity or acceleration.

$-vem = a \equiv [h]$ Planck in U.L.G. as applied to our local binary scheme.

These steps illustrate this model is scale invariant, &
massey – wavey mutuality or 'quantum gravity' is observed locally.

If we allow $[\psi] = [p]$ momentum into the wave eqn we get $\frac{dp}{dt} = [\gamma]$ gamma

Thus, $[p] = [\gamma^2] = [\lambda^4]$, & as mass = λ^5 we also have $p = \frac{m}{\lambda} = mk$,

or gamma $[\gamma] = [m \cdot k] - \text{dot}$

from previous conservation of momentum.

Then we have [2] states for +ve gamma

$$\gamma = [\{ m - \text{dot} \cdot k \} \leftrightarrow (+) \leftrightarrow \{ m \cdot k - \text{dot} \}]$$

$m - \text{dot} = \text{energy}$, & $k - \text{dot} = \text{accelleration}$

Thus classical force $F = E/d$ & ma $1/d = 1/\lambda \equiv [k]$

Allowing the model view of N.3.L or a Mach nuance for 'action begets reaction' we see N2L as the action treaction principle in the product $[m \cdot \text{vem}] \equiv ma$. This allows us to view the U.L.G. in terms of

A new gamma-force expression $\gamma = [m \cdot \text{vem}] = m \cdot h$

Gamma $[\gamma] = Mm \cdot h$ 'binary-system'

Where we also note $[a] = \frac{1}{\text{lambda}^3} \sim \frac{1}{[10^{11}]^3} = 10^{-33} \sim [h]$

also local acc – gravity $\sim [h] = [k^3] = [k] - \text{dot} \sim \frac{dk}{dt} \sim \frac{dG}{dt}$

local Gamma gives $[Mm] \cdot h \sim [1030 \cdot 10^{25} \cdot 10^{-33}] = 10^{22}$

Which is a good estimate of U.L.G. Force magnitude.

& gamma $\approx \text{Area } [A] = \lambda^2$

A literal model $[\gamma]$ based interpretation of Kepler, K.2.L Area = time.

There is further bounty in embracing N.3.L. & Mach.

Whereas in binary schemes we rather conventionally accept the gravity force as conservative & 'negative sign' or centric acting, we also see centripetal force as the outrider to offset or stop orbiting bodies [m] crashing towards [M].

We saw that model +ve gamma gave [2] states, where $[m - \dot{m}] \cdot k$ could be mv^2/r , centripetal F & $m \cdot [k - \dot{k}]$ can be $[m \cdot -vem]$ or $-[mm] = ma$ works also to yield the opposing sign case. This would seem historically to be all we really needed to explain order in the motions of the Heavens, in the 2-body case certainly.

However the model Omega offers further riches, & additionally [4] extra or complimentary states.

System Omega = -ve system Gamma

$$\omega = -ve \gamma \equiv -ve[m \cdot k] - \dot{m} \cdot k, \text{ gives}$$

$$\begin{aligned} \omega = [\{ -ve m - \dot{m} \cdot k \} \leftrightarrow (+) \leftrightarrow \{ -ve m \cdot k - \dot{m} \} \\ \leftrightarrow (+) \leftrightarrow \{ m - \dot{m} \cdot -ve k \} \leftrightarrow (+) \leftrightarrow \{ m \cdot -ve k - \dot{m} \}] \end{aligned}$$

Thus if we say the System state $[\psi]_s = [\gamma + \omega]_s$ we get

$$\begin{aligned} [\psi]_s = [\{ m - \dot{m} \cdot k \} \leftrightarrow (+) \leftrightarrow \{ m \cdot k - \dot{m} \} \\ \{ \leftrightarrow (+) \leftrightarrow -ve m - \dot{m} \cdot k \} \leftrightarrow (+) \leftrightarrow \{ -ve m \cdot k - \dot{m} \} \\ \leftrightarrow (+) \leftrightarrow \{ m - \dot{m} \cdot -ve k \} \leftrightarrow (+) \leftrightarrow \{ m \cdot -ve k - \dot{m} \}] \end{aligned}$$

This is a heady mix going on but seemingly or perhaps? necessary to maintain equilibrium

Conclusion

The multi-state of $[\psi]_s$. must maintain balance w.r.t. these conditions reinforcing the Steady status-quo we generally observe in 'classical' gravitationally bound binary bodies. See Fig:1 p.5

A more vigorous B.B type scenario is envisaged for the high magnitude entropy conditions of Atomic systems.

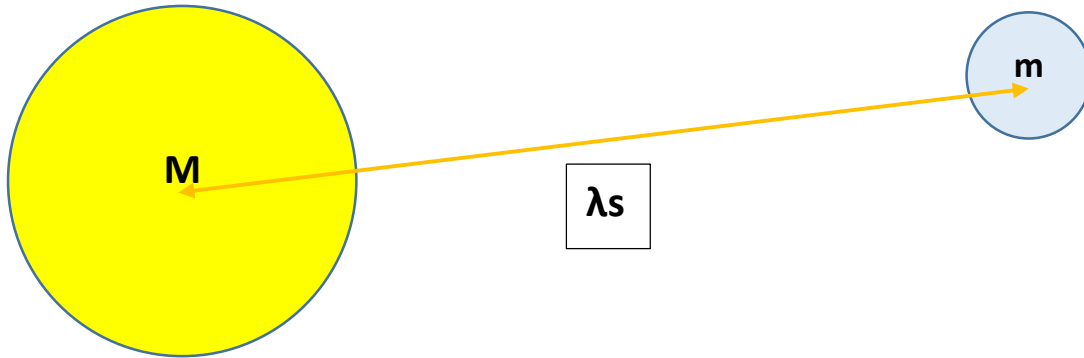
Therefore with respects we humbly offer up a New Physical model for a General & Natural Force law in Nature.

$$\left\{ \begin{matrix} + \\ - \end{matrix} \right\} \psi - \dot{\psi} \leftrightarrow = \leftrightarrow \left\{ \begin{matrix} \gamma \\ \omega \end{matrix} \right\} \cdot \psi - \dot{\psi}$$

Fig;1 System a New model Force Law showing System state $[\psi]s$ to accommodate relative equilibrium for Physical systems represented here by Binary mass system $\{m\} \sim [Mm]$.

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$$[\Psi]s = \left[\left\{ \frac{E}{\lambda} \right\} (+) \{m \cdot a\} (+) \left\{ \frac{k}{m} \right\} (+) \{a^2\} (+) \{e \cdot S\} (+) \left\{ m \cdot \frac{dS}{dt} \right\} \right]$$



$$[\Psi]s = \left[\{F\} (+) \{N2L\} (+) \left\{ \frac{k}{m} \right\} (+) \{h^2\} (+) \left\{ e \cdot \frac{dK}{dt} \right\} (+) \left\{ m \cdot \frac{dS}{dt} \right\} \right]$$

$$[\Psi]s = \left[\{Newton\} (+) \{Omega \& Mach\} \right]$$

$$(+)\{Planck \& dirac, Heisenberg, Schrodinger \& De Broglie\}$$

$$(+)\{e \cdot Hooke [K]\} (+) \{m \cdot Einstein [\Lambda]\}$$

Setting $[\Psi]$ To other parameters & stated findings Using simplest +ve case formulation alone,

$$\psi - dot = \gamma \cdot \psi - dd, \text{ we get}$$

$$[\Psi] = \{t\} \sim [\gamma] \quad \text{results } 1 = f \cdot t$$

$$[\Psi] = \{\omega\} \quad \text{-ve } [m \cdot m] - dot = 1$$

$$[\Psi] = \{I\} = \{m \cdot \gamma\} \quad m = \gamma \cdot e \quad \text{model Einstein from } [\Psi = I] = \text{Moment of Inertia}$$

$$[\psi] = [S] \text{ entropy \& } [S = B = k^9 = K - dot] \quad \text{get, } S - dot = \gamma \cdot S - dd \text{ or } E = kS = kB \sim E = cB$$

$$\text{Scrodinger } \psi [i\hbar] - dot = H\{\psi\} = E$$

$$\text{Let } \Psi = \text{Unity, gives } [i - dot] \cdot \hbar (+) i \cdot [\hbar] - dot \quad \& \quad i = [p], \quad \hbar = [h/2\pi] = -ve m \cdot p$$

$$\text{Ignore factor } [2] \text{ thus, } \gamma \cdot -ve m \cdot p (+) p \cdot -ve m - dot \cdot p$$

$$\text{as } \omega = -ve \gamma \text{ we get } \omega \cdot m \cdot p (+) p^2 \cdot 1/m$$

$$\omega \cdot p = f \& p^2 = -1 \quad m - dot \quad \{+\} -ve 1/m, \text{ these are equality states thus, } [m \cdot m - dot] = -ve 1$$

$$\text{Dirac } m\{\psi\} = i \cdot \gamma \cdot \frac{d\{\psi\}}{dx}, \text{ let } \Psi = 1, \& d/dx = [k] \text{ then } m = i \cdot \gamma \cdot k = p\gamma k = \gamma^3 \cdot k \text{ thus } m = k/\omega \text{ or } \omega = \frac{k}{m}$$